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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LIANG, REGINA

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 01/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/029,040

**Applicant(s)**

PARK, JOON HA

**Examiner**

Regina Liang

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 1, 5, it is unclear and confusing as to “a plurality of switching devices at least one of at the data lines and the gate lines” since it is not clear as to whether at least one of switching devices is at the data line and the gate line, or all the switching devices are provided at at least one of the data lines or the gate lines, furthermore it is confusing in that how can at least one switching device being at both the data line and the gate line.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright (EP 0 315 365).

As to claims 1, 2, Wright discloses a LCD device, comprising a LCD panel having a plurality of display cells at each intersection between a plurality of data lines and gate lines and a plurality of TFTs driving the display cells (column 2, lines 48-54), a plurality of switching

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devices (17-22 in Fig. 1) at least one of which is at the data lines switching to either a divisional driving mode or a non-divisional driving mode (see col. 2, lines 12-25, col. 3, lines 7-18), a controller (see col. 3, lines 10-11, it is inherent having a controller) supplying a control signal to the switching devices to control the switching device, and a control line (lines 23 and 24) connecting the switching devices and the controller. Wright does not disclose at least one of the switching devices is at the gate lines. However, Wright teaches providing switching devices at the data lines for separating the sub-matrices between the row electrodes have the advantage of minimizing the amount of conductors paths and the complexity of drive-circuitry is also minimized (col. 2, lines 1-11). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wright to comprise switching devices provided at the gate lines for separating the sub-matrices between the column electrodes so as to further minimize the amount of conductors paths and the complexity of drive-circuitry.

As to claim 3, Wright teaches the control signal is either an on-selection signal (open circuit) for the divisional driving mode or an off-selection signal (close circuit) for the non-divisional driving mode.

5. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright in view of Negishi et al (US. PAT. NO. 5,907,314 hereinafter Negishi).

As to claim 4, Wright does not explicitly disclose the LCD device comprising a first and second source drivers and a first and second gate drivers and a timing controller. However, Fig. 11 of Negishi teaches the LCD device comprising a first and second source drivers (112, 113) and a first and second gate drivers (115, 116) and a timing controller (Fig. 12) for applying

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control signal to the source driver and the gate driver. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the LCD device of Wright to have the first and second source drivers, and the first and second gate drivers and the timing controller as taught by Negishi to provide an improved LCD apparatus.

As to claim 5, Wright as modified teaches the plurality of switching device at the middle portion of the data lines and the gate lines.

As to claim 6, Wright teaches the control signal is either an on-selection signal (open circuit) for the divisional driving mode or an off-selection signal (close circuit) for the non-divisional driving mode.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Edwards (US. PAT. NO. 6,624,865) teaches a active matrix device.

Koizumi et al (US. PAT. NO. 6,177,917) teaches a LCD device and method for driving the same.

Moriyama (US. PAT. NO. 6,624,801) teaches a display device having a plurality of display regions.

Kim (US. PAT. NO. 6,229,516) teaches a display driving circuit and a driving method thereof.


Yamazaki et al (US. PAT. NO. 6,219,022) teaches an active matrix display and image forming system.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (703) 305-4719. The examiner can normally be reached on Monday-Friday from 9AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

  
REGINA LIANG  
PRIMARY EXAMINER  
ART UNIT 2674

RL  
1/9/04